

SECTION 07 12 10
UNDER-SLAB VAPOR BARRIER/RETARDER

PART 1 - GENERAL

1.1 SUMMARY

- A. Products Supplied Under This Section
 - 1. Vapor Barrier, seam tape, mastic, pipe boots, detail strip for installation under concrete slabs.
- B. RELATED SECTIONS
 - 1. Section 03300 Cast-in-place Structural Concrete
 - 2. Section 07260 Under-Slab Vapor Retarder

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - 3. ASTM E 1745-97 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs
 - 4. ASTM E 154-88 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs
 - 5. ASTM E 96-95 Standard Test Methods for Water Vapor Transmission of Materials
 - 6. ASTM E 1643-98 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs
- B. American Concrete Institute (ACI)
 - 1. ACI 302.1R-96 Vapor Barrier Component (plastic membrane) is not less than 10 mils thick

1.3 SUBMITTALS

- A. Quality Control / Assurance
 - 1. Independent laboratory test results showing compliance with ASTM & ACI Standards.
 - 2. Manufacturer's samples, literature
 - 3. Manufacturer's installation instructions for placement, seaming and pipe boot installation

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Vapor Barrier (Performance based specification)
 - 1. Vapor Barrier membrane must have the following properties.
 - a. Manufactured from prime virgin resins
 - b. Water Vapor Barrier ASTM E-1745 Meets or exceeds Class A
 - c. Permeance Rating ASTM E-96 0.01 perms or lower
 - d. Puncture Resistance ASTM D-1709 minimum 2200 grams
 - e. Tensile Strength ASTM D-882 minimum 50.0 lbf/in

2.2 ACCESSORIES

- A. Seam Tape
 - 1. Tape must have the following qualities:
 - a. Water Vapor Transmission Rate ASTM E 96 0.3 perms or lower

- B. Vapor Proofing Mastic
 - 1. Mastic must have the following qualities:
 - a. Water Vapor Transmission Rate ASTM E 96 0.3 perms
or lower
- C. Pipe Boots
 - 1. Construct pipe boots from vapor barrier material, pressure sensitive tape and/or mastic per manufacturer's instructions.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Ensure that subsoil is approved by architect or geotechnical firm
 - 1. Level and tamp or roll aggregate, sand or tamped earth base.

3.2 INSTALLATION

- A. Install Vapor Barrier/Retarder:
 - 1. Installation shall be in accordance with manufacturer's instructions and ASTM E 1643-98.
 - a. Unroll Vapor Barrier/Retarder with the longest dimension parallel with the direction of the pour.
 - b. Lap Vapor Barrier/Retarder over footings or seal to foundation walls.
 - c. Overlap joints 6 inches and seal with manufacturer's tape.
 - d. Seal all penetrations (including pipes) per manufacturer's instructions.
 - e. No penetration of the Vapor Barrier/Retarder is allowed except for reinforcing steel and permanent utilities.
 - f. Repair damaged areas by cutting patches of Vapor Barrier/Retarder, overlapping damaged area 6 inches and taping all four sides with tape.